Aquatic Invasive Species Ecology and Prevention

The Wisconsin Department of Natural Resources conducts and supports a variety of projects that improve our understanding of aquatic invasive species (AIS) and the ways we manage them.

Background

Whether an invasive species has recently arrived to Wisconsin or been long established in the state, knowing how these species grow, spread, and interact with their environment is an important part of managing them. Department staff and grant-supported partners have conducted research projects to help us better understand these non-native species, so that we can work to prevent their introduction or further spread in Wisconsin.

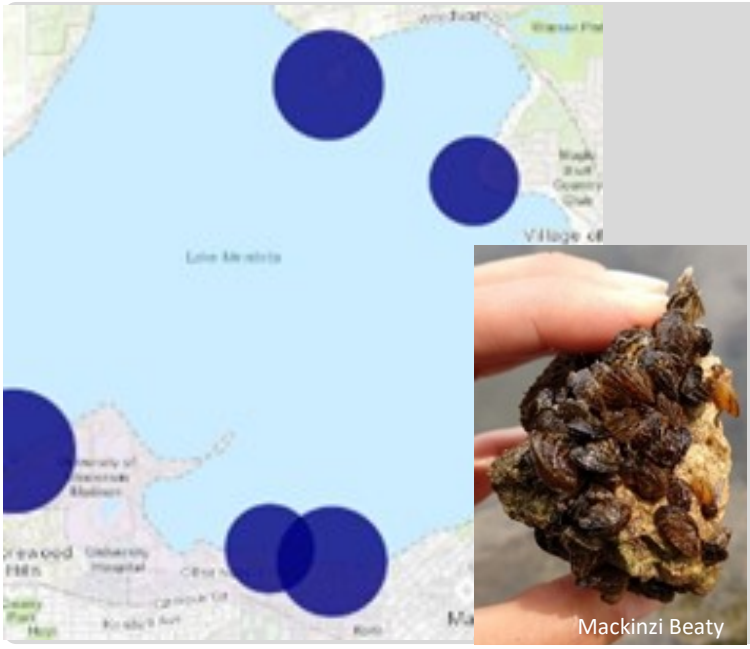
Spiny Water Flea

Researchers at UW-Madison are studying the spiny water flea (*Bythotrephes longimanus*), a relatively new invader to Wisconsin. They assessed the impacts of this zooplankton species on lakes known to be invaded, and identified sampling techniques that may help DNR and other resource managers improve our ability to accurately detect these microscopic animals in surveys. The study also examined boats leaving lakes populated by the spiny water flea and identified some ways that this species might be transported between lakes, such as in the mud attached to anchors. The results from this research has applications for prevention, management, and control of this species, including the development of improved models to help identify what waterbodies may be most at risk of invasion.

Starry Stonewort

Scientists at the New York Botanical Gardens have conducted a study to identify ways to prevent the spread of this invasive macroalgae. Study results indicate that freezing, drying, or exposing starry stonewort reproductive structures (bulbils) to hot water was more effective than the use of chlorine bleach solutions. These results can help DNR, our partners, and the public understand best practices for decontaminating equipment in the field to prevent further spread of this species. As part of this study, researchers are also conducting genetic DNA analysis to learn how this species may have spread across North America. By answering some basic questions about the natural history and biology of starry stonewort, we can be better prepared to respond to new and existing populations of this invader across Wisconsin.


Paul Skawinski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Zebra Mussels

Studies being conducted on zebra mussels by UW-Madison and UW-Oshkosh are helping us better understand how these invasive invertebrates grow, spread, and impact our lakes and communities. Researchers at UW-Madison used both lab- and field-based methods to monitor zebra mussel populations in Lake Mendota over time, and examined factors that may be limiting the density and spread of mussels. Data from this and similar research can provide insight into the early stages of invasions, and help resource managers respond to new invasive populations or identify waterbodies that might be at high risk of future invasions. A study by scientists at UW-Oshkosh is seeking to better understand the role of zebra mussels on phosphorus uptake and conversion in Lake Winnebago, which will provide valuable information in ongoing efforts to determine the total maximum daily load (TMDL) for phosphorus inputs to the lake ecosystem.